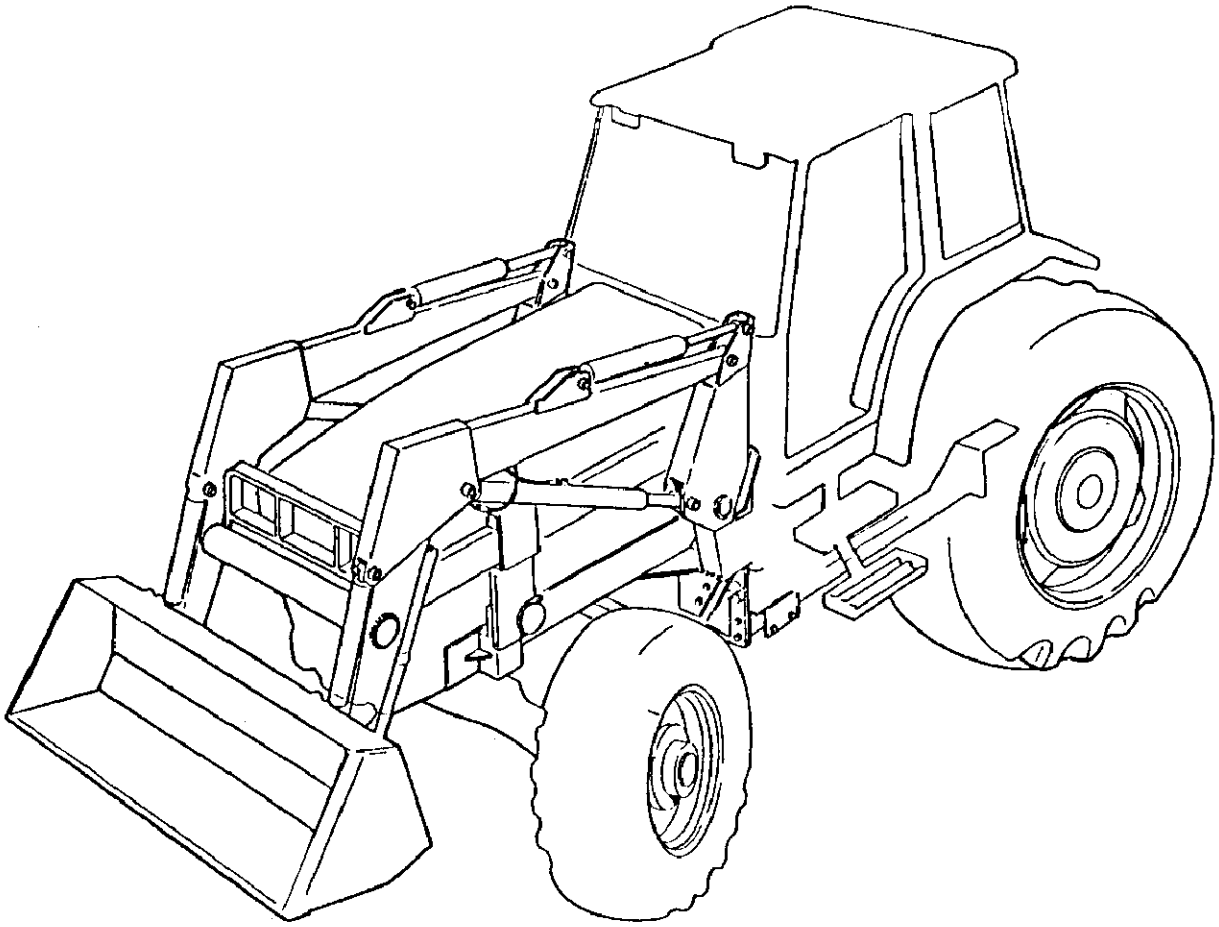
ALLIED

895 LOADER



MODELS 895, S895, 895HSL, S895HSL
895 TSL, & S895 TSL

(HSL Model Shown)

For serial numbers 058950000 and later

Assembly, Operator's and Parts Manual

Part No. P3549A

10/04

WARRANTY REGISTRATION AND POLICY

Buhler Manufacturing products are warranted for a period of twelve (12) months from original date of purchase, by original purchaser, to be free from defects in material and workmanship under correct, normal agricultural use and proper applications.

Buhler Manufacturing's obligations under this warranty shall be limited to the repair or exchange, at Buhler Manufacturing's option, of any Buhler Manufacturing product or part which proves to be defective as provided. Buhler Manufacturing reserves the right to either inspect the product at the buyer's location or have it returned to the factory for inspection.

The above warranty does not extend to goods damaged or subject to accident, abuse or misuse after shipment from Buhler Manufacturing's factory, nor to goods altered or repaired by anyone other than an authorized Buhler Manufacturing representative.

Buhler Manufacturing makes no Express Warranties other than those which are specifically described. Any description of goods, including any references and specifications in catalogues, circulars and other written material published is for the sole purpose of identifying goods and shall conform to such descriptions. Any sample or model is for illustrative purposes only and does not create an Express Warranty that the goods conform to sample or model shown.

The purchaser is solely responsible for determining suitability of goods sold. This warranty is expressly in lieu of all other warranties expressed or implied. Buhler Manufacturing will in no event be liable for any incidental or consequential damages whatsoever, nor for any sum in excess of the price received for the goods for which liability is claimed.

WARRANTY CLAIMS:

Warranty requests must be prepared on Buhler Manufacturing Warranty Claim Forms with all requested information properly completed. Warranty Claims must be submitted within a thirty (30) day period from date of failure repair.

WARRANTY LABOR:

Any labor subject to warranty **must** be authorized by Buhler Manufacturing. The labor rate for replacing defective parts, where applicable, will be credited at a rate determined by the Company, Buhler Manufacturing.

IMPORTANT FACTS:
Buckets and Bucket Tines Carry No Warranty
Bent Spears Carry No Warranty
Snowblower Fan Shafts Carry No Warranty
Mower Blades Carry No Warranty
Portable Auger Parts Have Two (2) Year Warranty
Loader Parts Have Two (2) Year Warranty

PRINTED IN CANADA

895
Hydraulic Farm Loader

Operator's Manual
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IMPORTANT

PLEASE READ AND UNDERSTAND THIS MANUAL
BEFORE OPERATING LOADER

LOADER SPECIFICATION SHEET

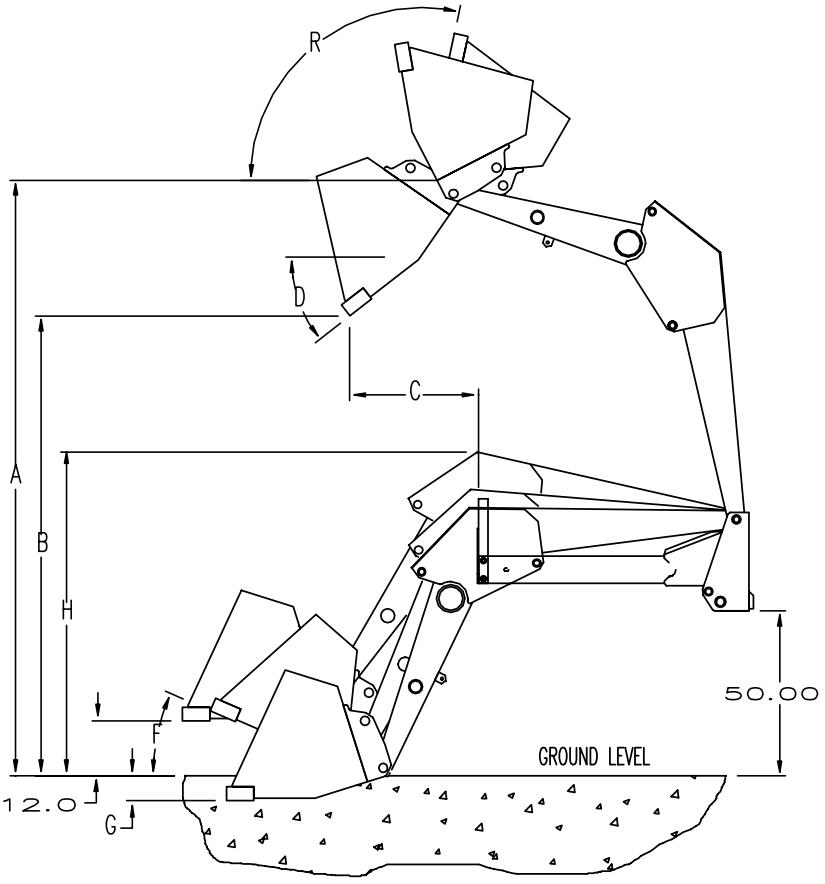
(PER ASAE S301.2)

MODEL NUMBER: 895
MOUNTING HEIGHT: 50.0" (NOMINAL)
TYPICAL RANGE: 46.0" TO 54.0"

CYLINDER SPECIFICATIONS [INCHES]

CYLINDER	BORE	ROD	STROKE
BUCKET	3.00	1.75	26.50
LIFT	3.50	2.25	32.50
LEVELING	4.00	1.75	10.50
TSL BKT	3.00	1.75	22.00

A) MAXIMUM LIFT HEIGHT (FULL HEIGHT): 172" (14.3')
B) CLEARANCE WITH BUCKET DUMPED (FULL HEIGHT): 140" (11.7')
C) REACH AT FULL HEIGHT: 30"
D) MAXIMUM DUMP ANGLE (FULL HEIGHT): 40°
D) TSL MAX DUMP ANGLE AT GROUND: 65°
D1) TSL DUMP ANGLE AT GROUND: 91°
F) BUCKET ROLLBACK ANGLE (GROUND): 21°
F1) TSL BUCKET ROLLBACK ANGLE: 34°
G) DIGGING DEPTH: 6.6"
H) OVERALL HEIGHT IN CARRY POSITION: 89"
R) ROLLBACK ANGLE AT FULL HEIGHT: 108°
ESTIMATED BREAKOUT FORCE: 7610 LBS
ESTIMATED LIFT CAPACITY: 4415 LBS



NOTES:

1) ESTIMATED VALUES ASSUME 2500 PSI CYLINDER PRESSURE.
2) BREAKOUT FORCE ESTIMATED AS PER ASAE S301.2–4.1.2. (NET PAYLOAD APPLIED AT CUTTING EDGE)
3) LIFT CAPACITY ESTIMATED AS PER ASAE S301.2–4.1.1. (PAYLOAD APPLIED AT BUCKET MIDPOINT)
4) MAIN PIVOT PINS: 1.50 DIA. ALL OTHER PINS: 1.25 DIA.
5) "HSL" MODELS LIFT APPROX. 5% MORE THAN CORRESPONDING REG. MODELS
6) "HSL" MODELS BREAKOUT APPROX. 25% MORE THAN CORRESPONDING REG. MODELS

Torque Specifications

Recommended Torque in Foot Pounds (ft-lbs) & Newton Meters (NM)*

Standard

Bolt Diameter (inches)		Wrench Size (inches)	Bolt Head					
			Grade 2		Grade 5		Grade 8	
			(ft-lbs)	(NM)	(ft-lbs)	(NM)	(ft-lbs)	(NM)
0.250	1/4	7/16	6	7	8	11	12	16
0.313	5/16	1/2	11	15	17	23	25	33
0.375	3/8	9/16	20	27	31	42	44	60
0.438	7/16	5/8	32	43	49	66	70	95
0.500	1/2	3/4	49	66	76	103	106	144
0.563	9/16	7/8	70	95	109	148	153	207
0.625	5/8	15/16	97	131	150	203	212	287
0.750	3/4	1 1/8	144	195	266	360	376	509
0.875	7/8	1 5/16	166	225	430	583	606	821
1.000	1	1 1/2	250	339	644	873	909	1232
1.125	1 1/8	1 11/16	354	480	795	1077	1288	1745
1.250	1 1/4	1 7/8	500	678	1120	1518	1817	2462
1.375	1 3/8	2 1/16	655	887	1470	1992	2382	3228
1.500	1 1/2	2 1/4	870	1179	1950	2642	3161	4283

Metric

Bolt Dia. (mm)	Wrench Size (mm)	Bolt Head					
		4.6		8.8		9.8	
		Class 4.6		Class 8.8		Class 9.8	
		(ft-lbs)	(NM)	(ft-lbs)	(NM)	(ft-lbs)	(NM)
8	13	7.3	10			21.1	29
10	16	14.5	20			42	57
12	18	25	34	74	100	73	99
14	21	40	54	118	160	116	157
16	24	62	84	167	226	181	245
20	30	122	165	325	440		
22	33			443	600		
24	36	211	286	563	763		
27	41			821	1112		
30	46	418	566	1119	1516		

*Use 80% of the specified torque value for plated or lubricated fasteners.

P3792-02.DWG

Pre-delivery Check List

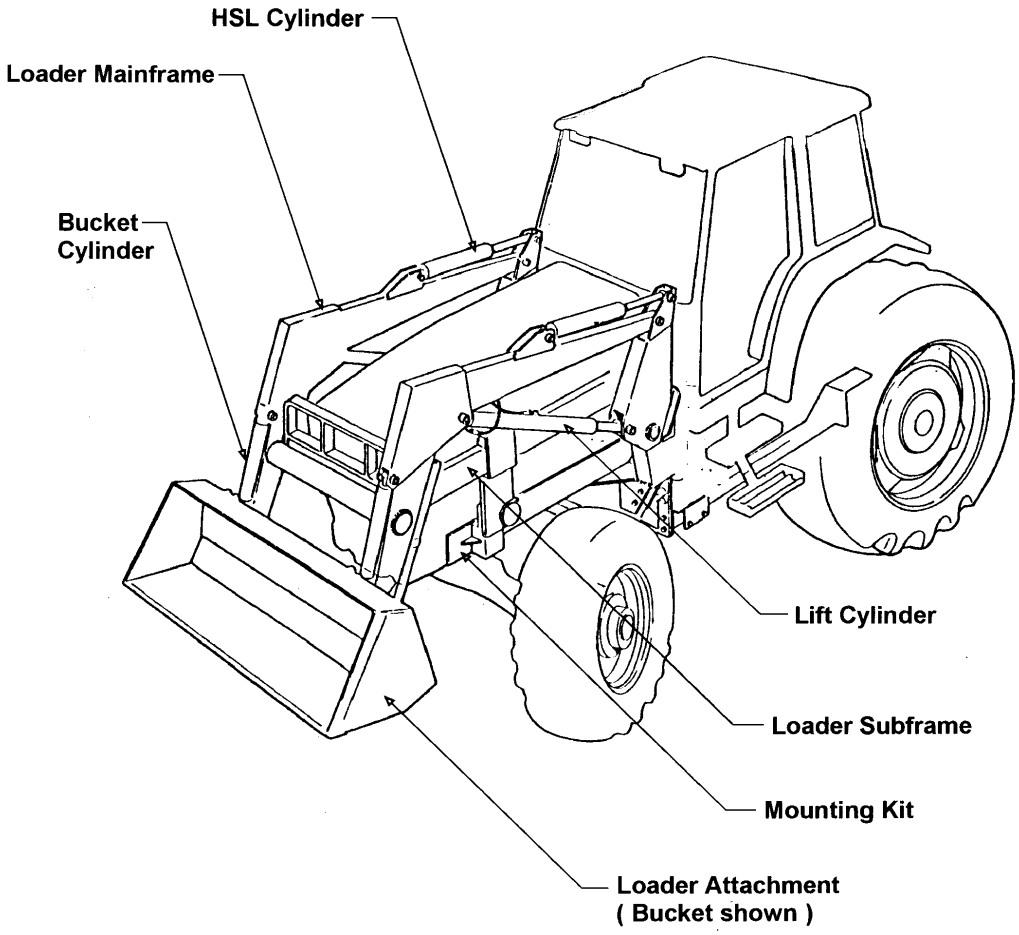
Before delivering this equipment please complete the following check list.

- [ ] 1. The loader has been installed using the appropriate mounting kit for the tractor and loader.
- [ ] 2. The hydraulic system installed is appropriate for the tractor and loader
- [ ] 3. The loader is properly installed.
- [ ] 4. All bolts are tightened to the torque specifications shown in the torque chart.
- [ ] 5. All safety decals are readable.
- [ ] 6. The loader has been tested and operates properly.
- [ ] 7. The operator's manual has been delivered to the owner who has been instructed on the safe and proper use of the loader.

Dealer's Signature_____

This check list is to remain in this Owner's Manual and is the responsibility of the dealer to complete it before delivery to the customer.

Loader Identification Diagram
(HSL Model Shown)



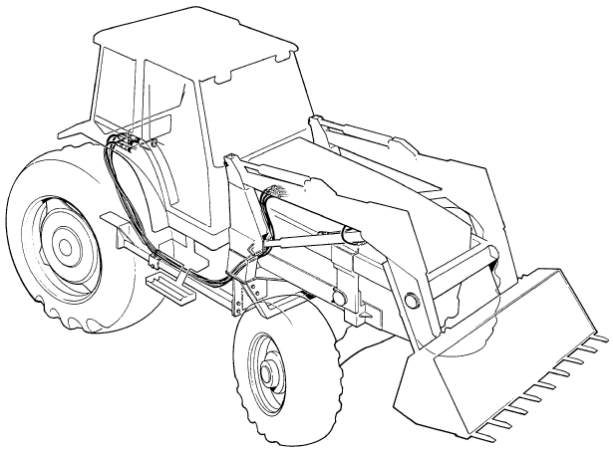
For further details refer to Loader Mainframe and Subframe diagrams.

Hydraulic (Hose Kit) Identification Diagrams

Hose Kit “A”

Loader Powered by the tractor remotes.

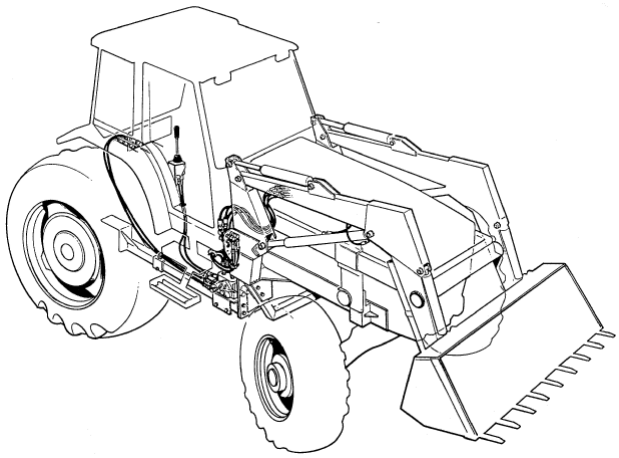
Consists of four hoses leading from loader tubing to tractor remote couplers



Hose Kit “B”

Loader operated by an external OC or CC valve that is powered from the tractor remotes

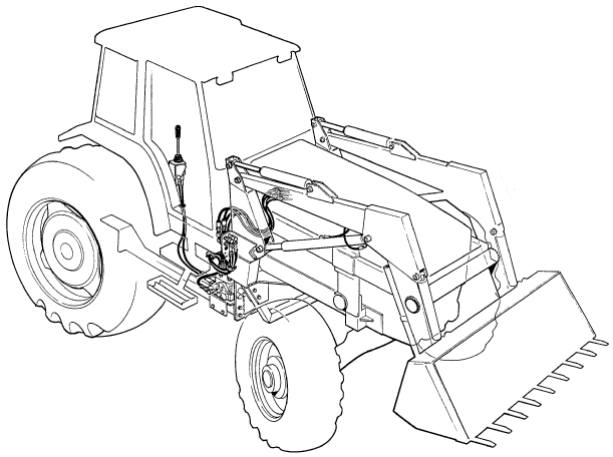
Consists of 4 hoses leading from loader tubing to external mounted valve and 2 hoses from valve to tractor couplers. Use the valve type shown with hose kit “B”.



Hose Kit “C”

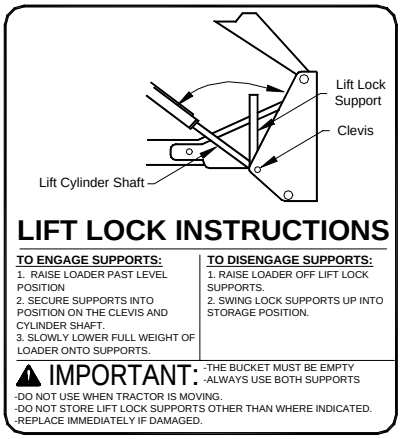
Loader operated by an external valve that is plumbed into the tractor hydraulic system.

Consists of 4 hoses leading from loader tubing to external mounted valve plus the necessary fittings, hoses and adapter blocks (if necessary) to tap into tractor hydraulic system. Use valve type shown with hose kit “C”.



Safety

- Never work beneath raised loader unless it is securely supported. The following are instructions for the Lift Lock Supports;


Lift Lock Support
Clevis
Lift Cylinder Shaft
LIFT LOCK INSTRUCTIONS
TO ENGAGE SUPPORTS:
1. RAISE LOADER PAST LEVEL POSITION
2. SECURE SUPPORTS INTO POSITION ON THE CLEVIS AND CYLINDER SHAFT.
3. SLOWLY LOWER FULL WEIGHT OF LOADER ONTO SUPPORTS.
TO DISENGAGE SUPPORTS:
1. RAISE LOADER OFF LIFT LOCK SUPPORTS.
2. SWING LOCK SUPPORTS UP INTO STORAGE POSITION.
IMPORTANT:
-THE BUCKET MUST BE EMPTY
-ALWAYS USE BOTH SUPPORTS
-DO NOT USE WHEN TRACTOR IS MOVING.
-DO NOT STORE LIFT LOCK SUPPORTS OTHER THAN WHERE INDICATED.
-REPLACE IMMEDIATELY IF DAMAGED.

- Do not pivot or turn tractor with bucket raised, except at a minimum speed. Always make allowance for length of loader when making turns.

- Never leave tractor unattended while the bucket is raided. Always lower bucket to the ground and shut off before leaving tractor seat.

- Do not walk under raised bucket.

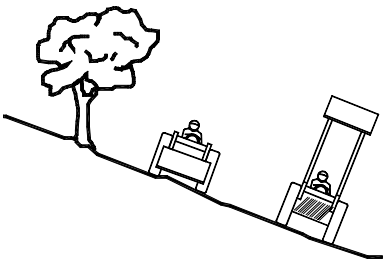
- Never operate loader while operator is not seated in the driver's seat on the tractor.

- Keep tractor on solid ground. Loose fill, rocks and holes can be dangerous for loader operation or movement.

- Never operate a loader with frayed or damaged hoses or leaking fittings.

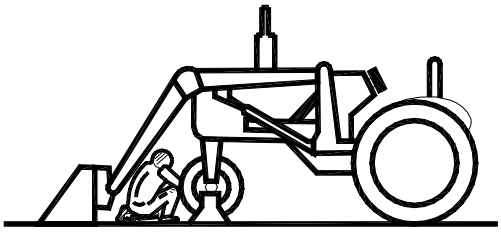
- Add ballast as required to ensure 25% of gross vehicle weight is transferred to the rear axle.

- Space rear tires as recommended by tractor manufacturer. Maximize width for high lift applications.



- Do not raise bucket to extreme heights while tractor is on an incline. Carry loader low for safety. Note in above illustration how load center moves out when bucket is raised on a slope. Be alert for terrain changes and adjust bucket accordingly. Keep bucket low, no more than one foot high, as long as possible.

- Note: A pivoting front axle acts like a three-wheeled tractor until the stops hit the axle.

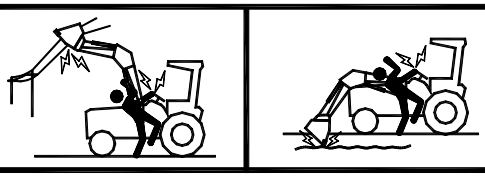


- If lift cylinders are used to raise front wheels of tractor for service, place blocks under tractor before working around front end.

THIS SAFETY ALERT SYMBOL MEANS:
ATTENTION!
BECOME ALERT!
YOUR SAFETY IS INVOLVED!

Important Precautions

DANGER

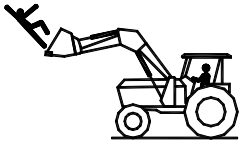


ELECTROCUTION HAZARD

To prevent serious injury or death:

Stay away from power lines and cables.
Electrocution can occur with or without direct contact.

WARNING



FALLING HAZARD

To prevent serious injury or death:

Do not lift, carry or allow anyone to ride on or work from any portion of loader.

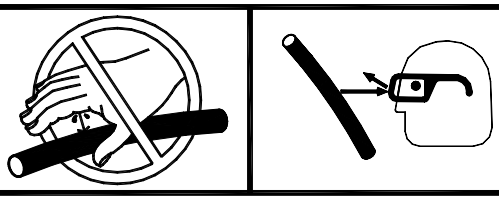
WARNING

CRUSHING HAZARD

To prevent serious injury of death:

Do not handle round bales or other shiftable objects unless loader is equipped with an attachment designed for this purpose.
Do not handle loose loads that are not secured.
Do not lift load higher than necessary.

WARNING

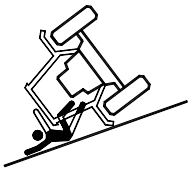


HIGH PRESSURE FLUID

To prevent serious injury or death:

Relieve pressure on system before repairing or adjusting or disconnecting.
Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.
Keep all components in good repair.
If hydraulic fluid penetrates skin, obtain medical treatment IMMEDIATELY.

WARNING

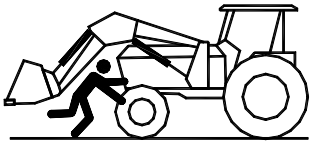


ROLL-OVER HAZARD

To prevent serious injury or death:

Move and turn tractor at low speed.
Carry load no higher than necessary to clear the ground when transporting.
Add wheel ballast or rear weight for stability.
Move wheels to widest possible settings to increase stability.
It is recommended the tractor be equipped with a rollover protective structure (ROPS).

WARNING



CRUSHING HAZARD

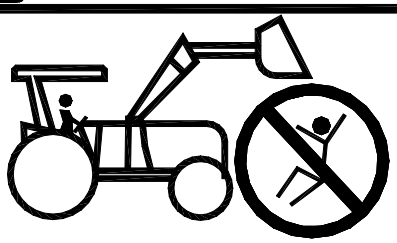
To prevent serious injury or death:

Do not allow bystanders in loader work area.
Lower loader to the ground before leaving seat.
Do not walk or work under raised loader. For servicing, refer to operator's manual.
Read and understand operator's manual before operating loader.

Safety Decals

These decals are located as shown on the Decal Location diagram and the Sub-Frame Assembly diagram.

WARNING



OVERHEAD HAZARD

STAY AWAY FROM UNDER LIFT ARMS AND BUCKET

To prevent serious injury or death:
1. Do not stand or work under raised loader, unless supported.
2. Support bucket and lift arms before working under loader.
3. Lower loader to the ground before leaving seat.

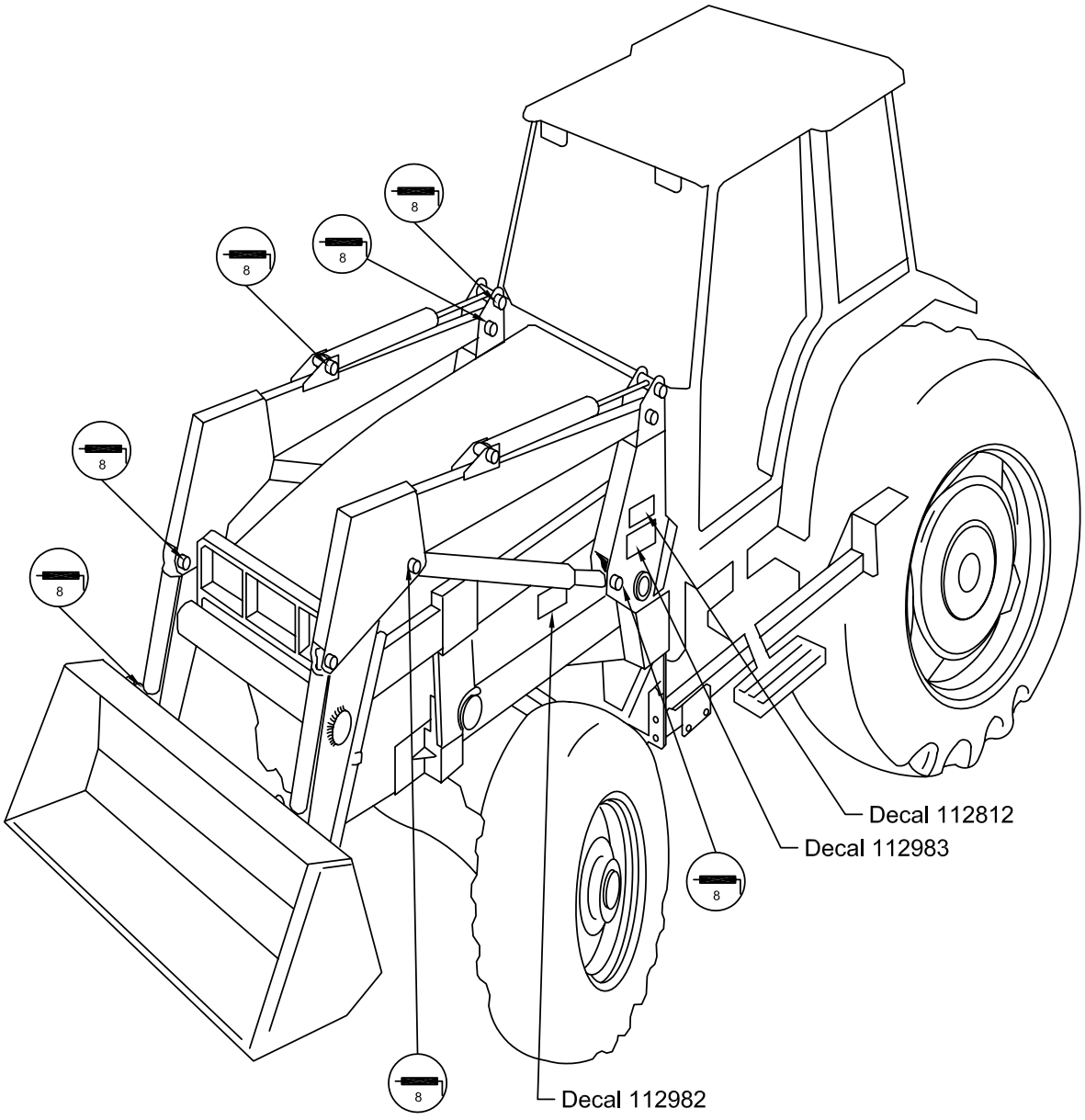
CAUTION

1. Read Operator's Manual before operating.
2. Move and turn tractor at low speed.
3. Carry loader arms at a low position during transport.
4. Lower loader arms, stop engine and lock brakes before leaving operator seat.
5. Do not stand or work under raised loader, unless properly supported.
6. Add recommended wheel ballast or rear weight for stability.
7. Move wheels to widest recommended settings to increase stability.
8. Do not handle large round bales or other shiftable objects unless loader is equipped with a grapple fork.
9. Do not use loader to move or carry people.
10. Stay away from power lines. Electrocution can occur without direct contact.
11. Review safety instructions annually.

Lubrication and Decal Location Diagram

Lubricate tractor hydraulic unit as indicated in tractor Operator's Manual. Keep bushings on lift arm pivots and cylinders well lubricated. Use high-grade lithium grease every 8 hours of operation.

NOTE: Frequent greasing will prevent contaminants from migrating between the pins and bushings.



8 Symbol indicating grease after every 8 hours of operation

General Instructions and Information

As with any piece of equipment, the care with which your loader is operated and maintained will greatly affect it's life and the safety of the people using it.

1. Keep all pivots well lubricated for longer bushing life. Inspect every 500 hours of operation for wear.
2. Periodically check all bolts for tightness. If any bolt is damaged, replace it with a bolt of equivalent grade or strength.
3. Follow the recommendations of the tractor manufacturer in regards to the quantity of oil used.
4. Check oil level frequently to ensure the system is full.
5. When making an oil check, be sure lift cylinders are retracted.
6. Before operating the loader, particularly if the loader is left standing for any length of time, check the hydraulic system and oil level.
7. When installing hydraulics, follow the circuit carefully. See hydraulic hook-up section and make sure the hoses do not contact any hot manifolds or sharp edges on tractor. After assembly, raise the loader slowly and check to make sure that the hoses do not bind in all positions.

CAUTION

The pressure of the relief and open center valves is set at the factory. Do not tamper with the setting, serious injury to the operator or damage to the loader or tractor hydraulics may occur. Warranty will be void if the loader is operated above recommended pressure.

9. When servicing any hydraulic components, care must be taken to prevent any foreign matter from entering the system.
10. Do not neglect oil leaks. Leaks affect loader operation, are dangerous and can result in personal injury or damage to the hydraulic system.
11. Never leave the cylinder shafts exposed when loader is not in use.
12. Worn or damaged components should be replace as soon as possible with only the manufacturer's recommended component or equivalent.

Operation and Maintenance

GENERAL

Refer to tractor Operator's Manual for Operating information on the tractor's hydraulic system.

Hydraulic systems using auxiliary valves should have them located for easy reach from the tractor seat. Hoses should be connected in such a manner that pushing forward on valve handles lowers the boom or dumps the bucket.

CAUTION: Always connect boom hoses to float section.

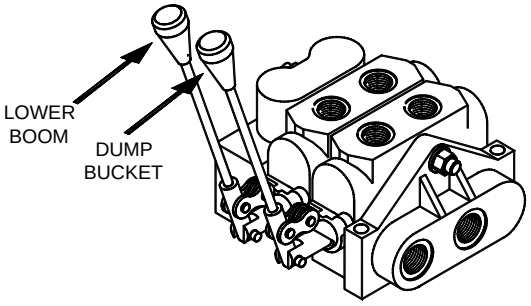
Weight added to rear of tractor provides better traction and an easier, more efficient loader operation. Extra weight, along with widening the rear wheels, reduces the risk of roll-over.

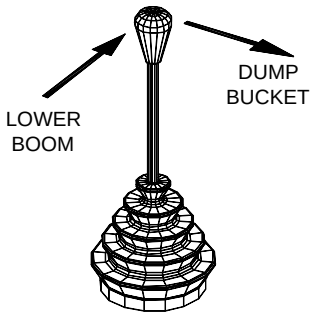
WARNING

The smaller the tractor is, the easier it will roll. We recommend that weight be added to rear tires with liquid or by the installation of rear wheel weights. Where additional weight is required, a counterweight box can be fabricated for tractors with three-point hitches.

Extra weight can also be added by the use of a heavy implement mounted to the three-point hitch.

A roll-over protective structure is also recommended.





In cold weather, operate the tractor's engine at idle speed until the hydraulic fluid is warmed up. High engine speed when the hydraulic fluid is cold will cause the pump to wear prematurely.

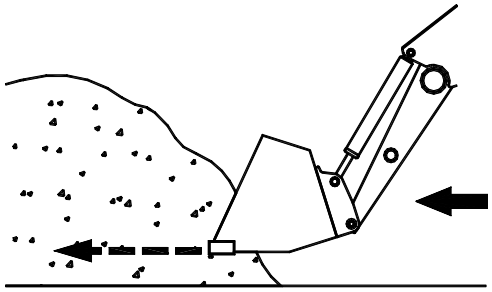
Under normal conditions, operate the tractor's engine at ½ throttle. Shift the tractor into a low gear before entering a pile of material to minimize strain on loader arms.

Operating Suggestions for Loading

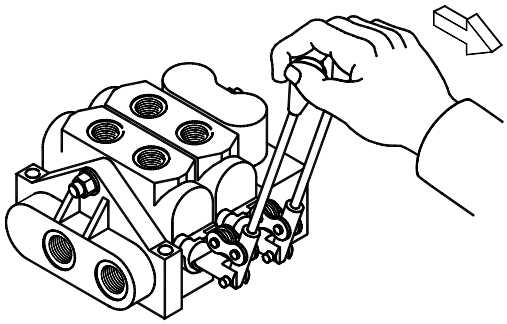
When handling heavy loads, be sure to lower lift arms slowly. This is known as feathering the hydraulic lever. If load is lowered too fast and stopped suddenly, excessive shock loads are created which can damage loader or tractor.

When loading bucket, drive straight into material. Attempting to turn tractor while loading bucket can cause damage to both the loader and tractor.

Come in level:



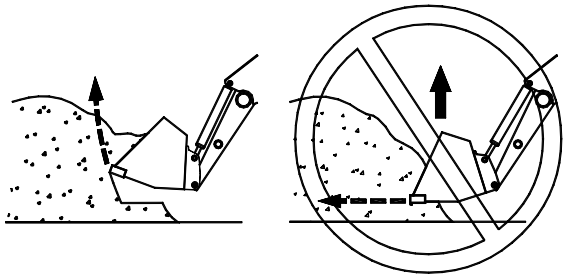
NOTE: Bottom surface of bucket is parallel to line on motion



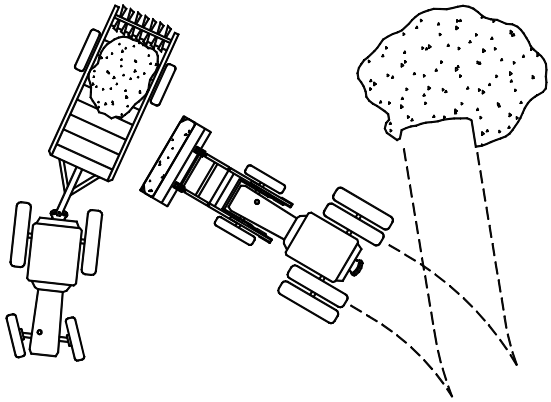
Work both levers back to direct pressure to both cylinders.

Combined action of lift and bucket cylinders increases loading efficiency.

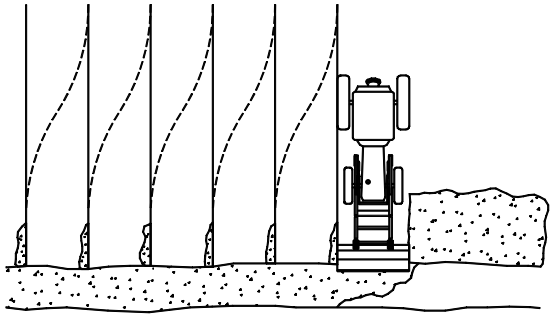
DO THIS! **NOT THIS!**



A straight bottom offers more resistance to lift.



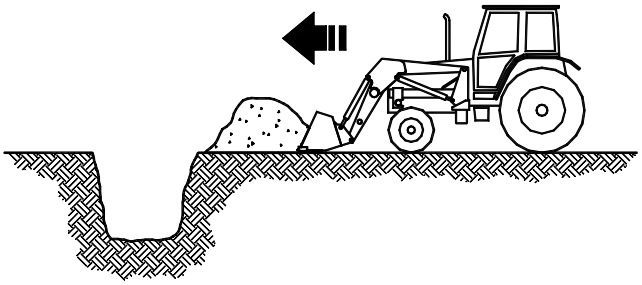
To increase loading efficiency, minimize angle of turn and length to run between pile and spreader.



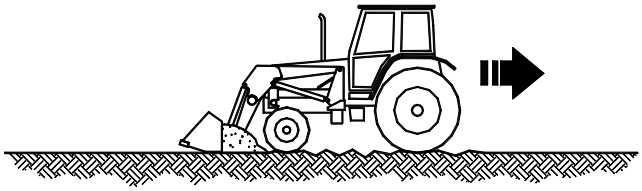
Leave material which drifts over side of bucket for final clean-up.

Operating Suggestions For Backfilling

DO THIS!

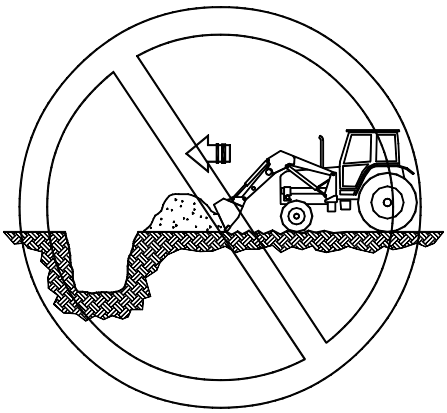


When backfilling approach pile with a flat bucket. Leave dirt in bucket. Dumping on each pass wastes time.



Backgrade work surface with a loaded bucket. Release all pressure on lift cylinders so full weight of bucket is scraping ground. Use heel of bucket.

NOT THIS!

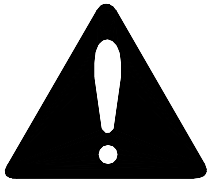


DO NOT use bucket in dumped position for bulldozing. This will only impose severe shock loading on the bucket cylinders and make it more difficult to maintain a level grade.

WARNING!

DO NOT USE LOADER AS BATTERING RAM!

SAFETY: FIRST, LAST, ALWAYS



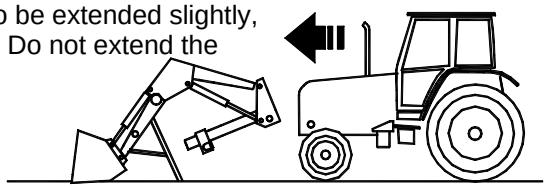
Attaching the Loader to Your Tractor

1. Position the tractor as centrally as possible and drive, using lowest gear possible, into the loader frame until hoses can be connected.

2. Couple up the hydraulic hose lines to the loader or tractor valve ensuring proper function (see Operator and Maintenance Section)

NOTE: When mounting the loader for the first time, slowly work the cylinders back and forth, so that most of the air is removed. Loosen the bolts on the hooks so that they can be moved. Also, check that the nuts in the rear of the subframes are in line with the holes.

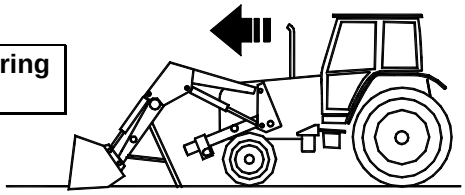
3. On some tractors, the lift cylinders may have to be extended slightly, so that the subframes can clear the front axle. Do not extend the cylinders more than is required.



IMPORTANT! On self leveling loaders, the bucket will dump at the same time the loader is raised. Therefore, operate both hydraulic levers together.

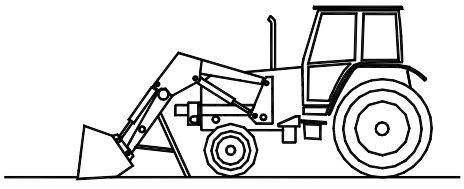
4. Drive the tractor ahead until the subframe is past the front axle and the front hook is close to mounting boss.

WARNING! Check front grill clearance during installation to avoid tractor damage.



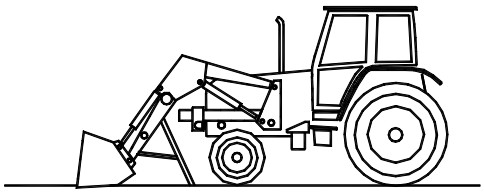
5. Retract or extend the lift cylinders to line up the front hook with the mounting boss.

IMPORTANT! On self leveling loaders, the bucket will roll back at the same time the loader is lowered. Therefore, operate both hydraulic levers together.

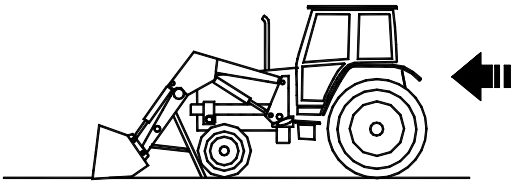


Attaching the Loader to Your Tractor
(Continued)

6. When the hook is lined up, dump or roll back the bucket to lower or raise the subframe upright to align with the mounting boot.

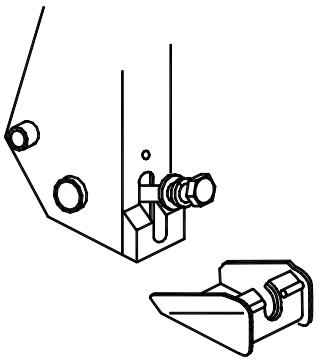


7. Continue to drive the tractor forward until the subframe uprights are seated in the boot.



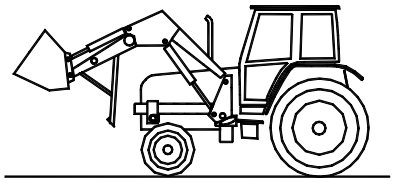
8. Secure the subframe uprights with the bolts and washers. Torque to 500 ft-lbs.

IMPORTANT: When mounting for the first time, the front hook bolts will have to be tightened after positioning the hook directly over the mounting boss (most rearward position).



9. Raise the loader and lock the support stand tubes into the up position.

NOTE: When mounting for the first time, raise the loader slowly and check to make sure that the hoses do not bind or become pinched in all positions. Work the loader and bucket up and down to work out all the air in the hydraulics. Check and refill the tractor's hydraulic system.

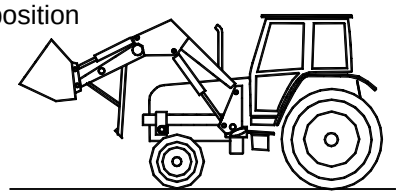


Removing the Loader from Your Tractor

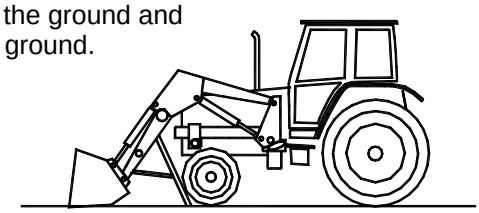
WARNING! When removing the loader, it must be fitted with a bucket or other suitable attachment to give the frame stability after removal. If this is not done, the frame will not remain standing.

IMPORTANT! Always remove the loader on firm, level ground (away from children's play areas and high traffic areas). This makes attaching and removing much faster and easier. It also makes the free standing loader more stable.

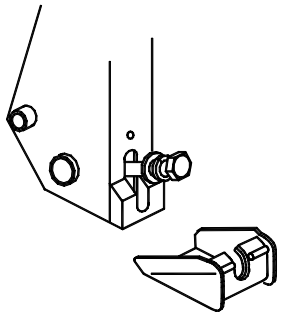
1. Raise the loader, lower support stand tubes and lock into position



2. Lower the loader until the stand tubes are firmly on the ground and then dump the bucket so that it is also firmly on the ground. There should be slight downward pressure.

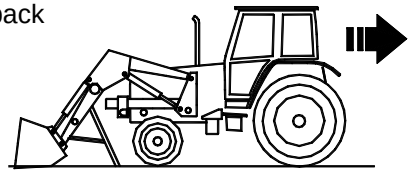


3. Loosen the bolts from the rear of the subframe boots and swing bolt up into lock position.



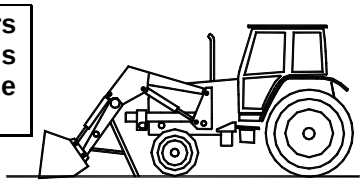
Removing the Loader from Your Tractor
(Continued)

4. Roll back the bucket slightly and simultaneously extend or retract the lift cylinders to free hooks from spools. Then slowly back up the tractor.

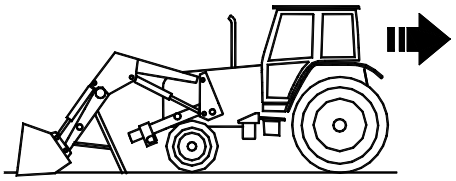


5. Once the subframe is clear of the boot and the hook is clear of the mounting boss, roll back the bucket all the way. This raises the rear uprights of the loader.

NOTE: On some mountings, the lift cylinders must be extended more while the tractor is backing up, so that the subframes clear the front axle.

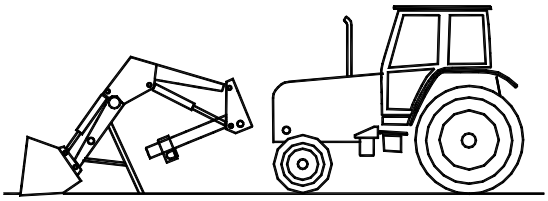


6. Continue backing up until the loader is clear.



CAUTION! Be sure the hoses DO NOT get pinched or catch on any frame members while backing up.

7. After the loader is clear, retract the lift cylinders to protect the shafts and disconnect the hydraulic lines at quick couplers.



Trouble Shooting

PROBLEM	POSSIBLE CAUSE	REMEDY
Loader slow and/or will not dump.	Quick couplers leaking.	Check connections and compatibility or replace.
	Hydraulic oil too heavy.	Change or replace filter.
	Oil filter plugged.	Clean or replace filter.
	Hydraulic pump worn.	Repair or replace pump.
	Oil line restricted or leaking.	Check all hoses and tubes for leaks, damage or restrictions. Replace damaged or restricted hoses or tube lines.
	Control valve does not shift properly.	Inspect, clean, repair or replace valve.
	Air in hydraulic system.	Cycle lift cylinders and bucket cylinders several times to free system of air.
	Cylinder leaks internally.	Replace seals.
	Faulty valve.	Repair or replace valve.
Loader chatters or vibrates when raising and lowering.	Air leak in pump inlet line.	Check, tighten or replace inlet line.
	Air in hydraulic system.	Cycle lift cylinders and bucket cylinders.
	Oil level too low.	Add oil as required.
Excessive movement at pivots	Worn bushings and/or pins.	Replace bushings and/or pins.
Pump noisy	Inlet line restricted or leaking.	Check for air leaks, restrictions or collapsed hose. Tighten or replace hose. Clean filter if necessary.
	Oil level too low.	Add oil as required.
	Pump worn or damaged.	Repair or replace pump.
Oil leaks.	Damaged fittings or hoses.	Replace damaged parts.
	Loose connections.	Tighten fittings.
	Worn or damaged O-ring wiper seal in cylinder rod end.	Install a seal repair kit.
	Worn or damaged O-rings in valve.	Install an O-ring repair kit.
Insufficient lift capacity	Improper hydraulic pump operation.	Repair or replace pump.
	Load is greater than boom lift capacity.	Check loader specifications.
	Internal boom cylinder leakage.	Replace any worn parts and install a seal repair kit.
	Improper hydraulic valve operation.	Repair or replace valve.
Slow leakdown.	Worn control valve.	Have authorized dealer replace seals.
	Worn cylinder piston seals.	Have authorized dealer replace seals.
Excessive wear on bottom oil bucket and wear pads.	Float position not used while operating loader.	Use float position provided on valve.
Hydraulic cylinders inoperative.	Hose from control valve improperly connected.	Refer to plumbing diagrams.
Pump operating continually on closed center tractor hydraulic system.	Tractor control valve relief stuck open.	See your tractor manual for proper adjustment or Loader dealer for loader valve. (3000 PSI is maximum pressure relief setting recommended.)
	Hydraulic control valve set too low.	Adjust valve in accordance with manual.
Loader lift and bucket tilt controls do not work according to decal.	Hoses improperly connected.	Refer to plumbing diagrams and correct hose connections.
Valve noisy and/or hot	Open center control valve on closed center tractor.	Replace relief valve with closed center plug and plug the power beyond adapter on valve.
Tractor loads/pump squeals	Closed center control valve on open center tractor.	Install open center plug on optional valve. Replace closed center plug with relief and install short plug in place of power beyond adapter.

General Notes and Instructions to the Operator Regarding ALLIED HSL Loader Operations

1. The *hydraulic self-leveling system* (HSL) utilizes two metering cylinders which displace oil into or out of the bucket cylinders as the loader is raised or lowered. The cylinder volumes and geometry's are carefully matched for each loader model to provide the correct amount of oil to keep the bucket level after it is initially leveled.

2. The HSL system incorporates two relief valves which are only utilized if the bucket cylinders are at either end of the stroke. ***If the loader is raised with the bucket fully dumped***, oil will be bypassed at high pressure into the lower side of the lift cylinder circuit. ***If the loader is lowered with the bucket fully rolled back***, oil will be bypassed at high pressure into the raised side of the lift cylinder circuit. Note that these two conditions are likely to occur only intermittently, and although the pump will be forced to supply oil at a higher pressure no damage to the loader components will occur. It is, however, recommended to avoid the above situations and keep the bucket somewhat level while raising or lowering the loader for smoother operation.

3. Note that the large volume (piston side) of the leveling cylinders is connected to the large volume of the bucket cylinders, and the small volume (rod side) is connected between the two sets of cylinders. The effect of this configuration is to create a breakout force "boost" if the bucket cylinders are pressurized toward the rollback position during breakout.

4. The opposite effect of the above situation is that the loader will have poor lift capacity if lifting with the bucket cylinders pressurized in the dumped position. This is, however, a very unlikely occurrence (lifting a load with bucket fully dumped).

5. The cartridge style relief valves are factory set at 2,000 psi cracking pressure and are capable of bypassing 15-20 GPM. If loader lock-up should occur due to a low tractor relief setting, higher inlet flows or return line restrictions, the relief valve setting may be bucket off slightly until the lock-up condition is overcome (as described in note 2 above).

6. **CAUTION:** Never utilize the leveling cylinders to raise the loader. This could occur if the lift cylinders are placed in float while the bucket cylinders are held pressurized in the retracted position. If the loader should rise, pressurize the lift cylinders to lower it; otherwise a rapid drop may occur when the bucket cylinders are extended. Note that this situation is unlikely to occur during normal loader operation and is possible only with a lightly loaded bucket.

General Notes and Instructions to the Operator Regarding ALLIED *TSL* Loader Operations

1. The *true self levelling system* (TSL) utilizes mechanical linkages to maintain bucket level while raising and lowering. The pivot plate weldment, levelling tubes and linkages have been developed to ensure that the bucket remains at the same position throughout its range of motion. This feature is standard with 2.50" and 3.00" diameter bucket cylinders.

2. The TSL system incorporates a relief and anticavitation manifold to provide extra dump at ground and rollback at full lift height. This feature is available on 3.00" bucket cylinders only. **If the loader is raised with the bucket fully dumped,** oil from the bucket piston side will be bypassed at high pressure to the bucket shaft side and the lift shaft side as the quick attach contacts the dump stop. **If the loader is lowered with the bucket fully rolled back,** oil from the bucket shaft side will be bypassed at high pressure to the bucket piston side and makeup will be provided by the lift piston side as the quick attach contact the rollback stop. Note that these two conditions are likely to occur intermittently and although the pump will be forced to supply oil at a higher pressure, no damage to the loader components will occur. It is, however, recommended to avoid the above situations and keep the bucket somewhat level while raising or lowering the loader for smoother operation.

3. The extra bucket stroke length allows for the bucket to be dumped to approximately 90 degrees at ground. This allows for bucket assist when traction is minimal. If the loader is raised from this position, the bucket will retract as the quick attach contacts the dump stop and the circuit goes through relief as described in note 2.

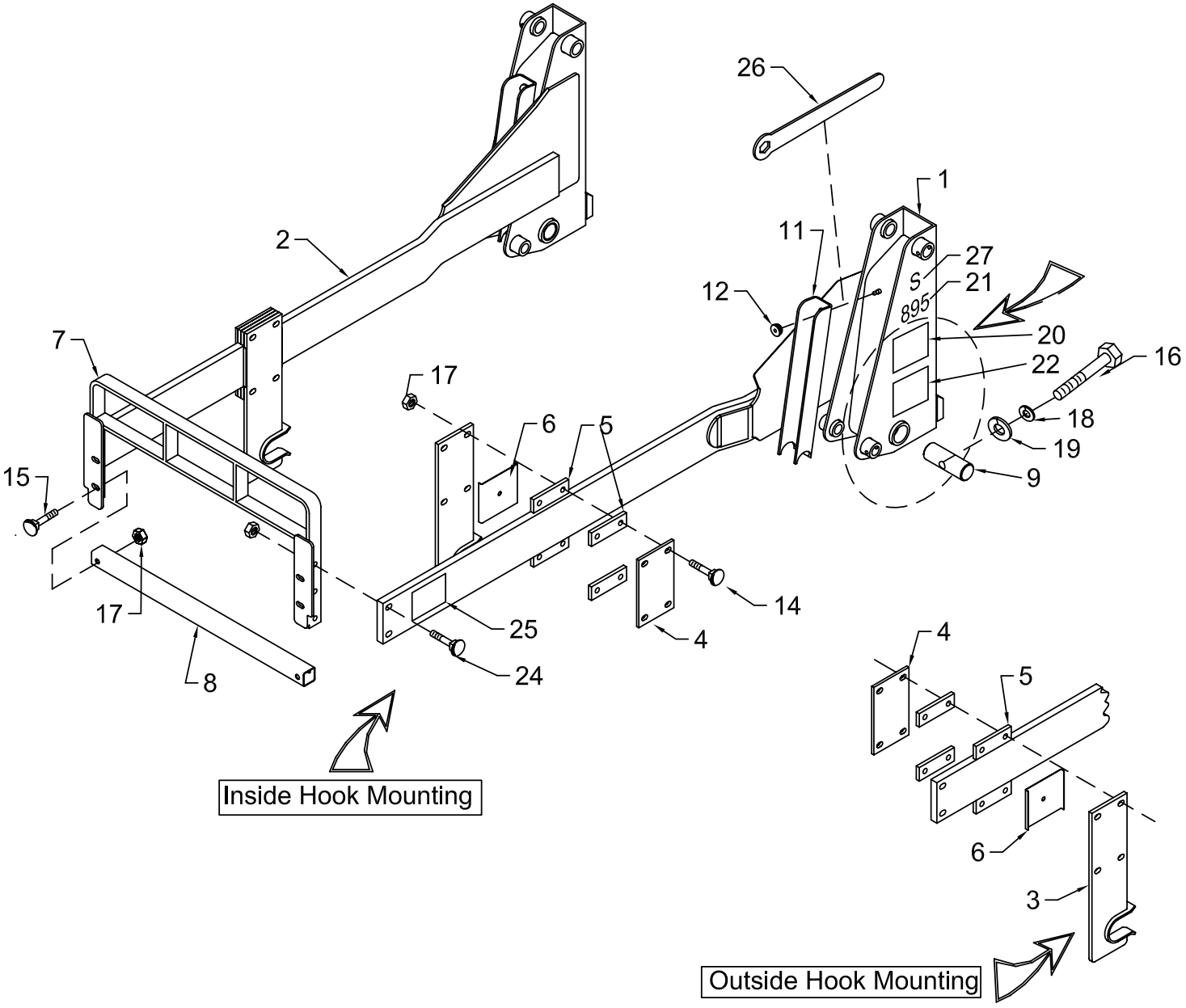
4. Extra bucket retraction allows for the bucket to be rolled back as the loader raises. The TSL feature maintains the bucket level, but as required the bucket can be manually rolled back approximately 20 degrees to allow for increased bucket capacity. If the loader is lowered from this position, the bucket will extend as the quick attach contacts the rollback stop and the circuit goes through relief as described in note 2.

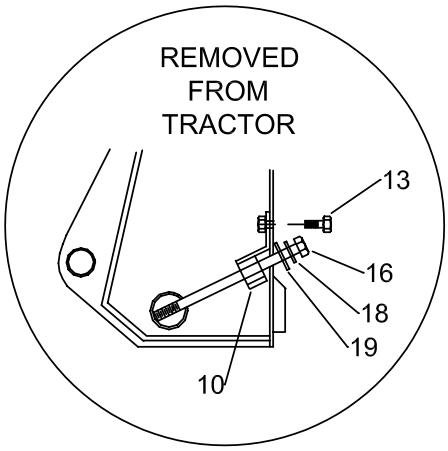
5. The relief valve is factory set at 3250 PSI cracking pressure and is capable of bypassing 10-15 GPM. If loader lock-up should occur due to a low tractor relief setting, higher inlet flows or return line restrictions, the relief valve may be backed off slightly until the lock-up condition is overcome (counterclockwise turn of set-screw). Contact the factory for further instructions.

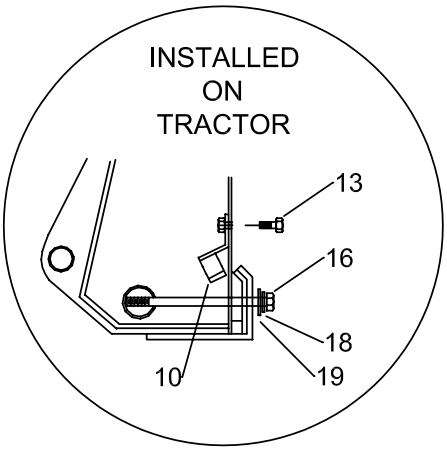
Notes

895, S895, 895 HSL/TSL, S895 HSL/TSL

Sub Frame Assembly
(895 Model Shown)







895, 895 HSL, S895, S895HSL, 895 TSL, S895 TSL

Sub Frame Parts Table

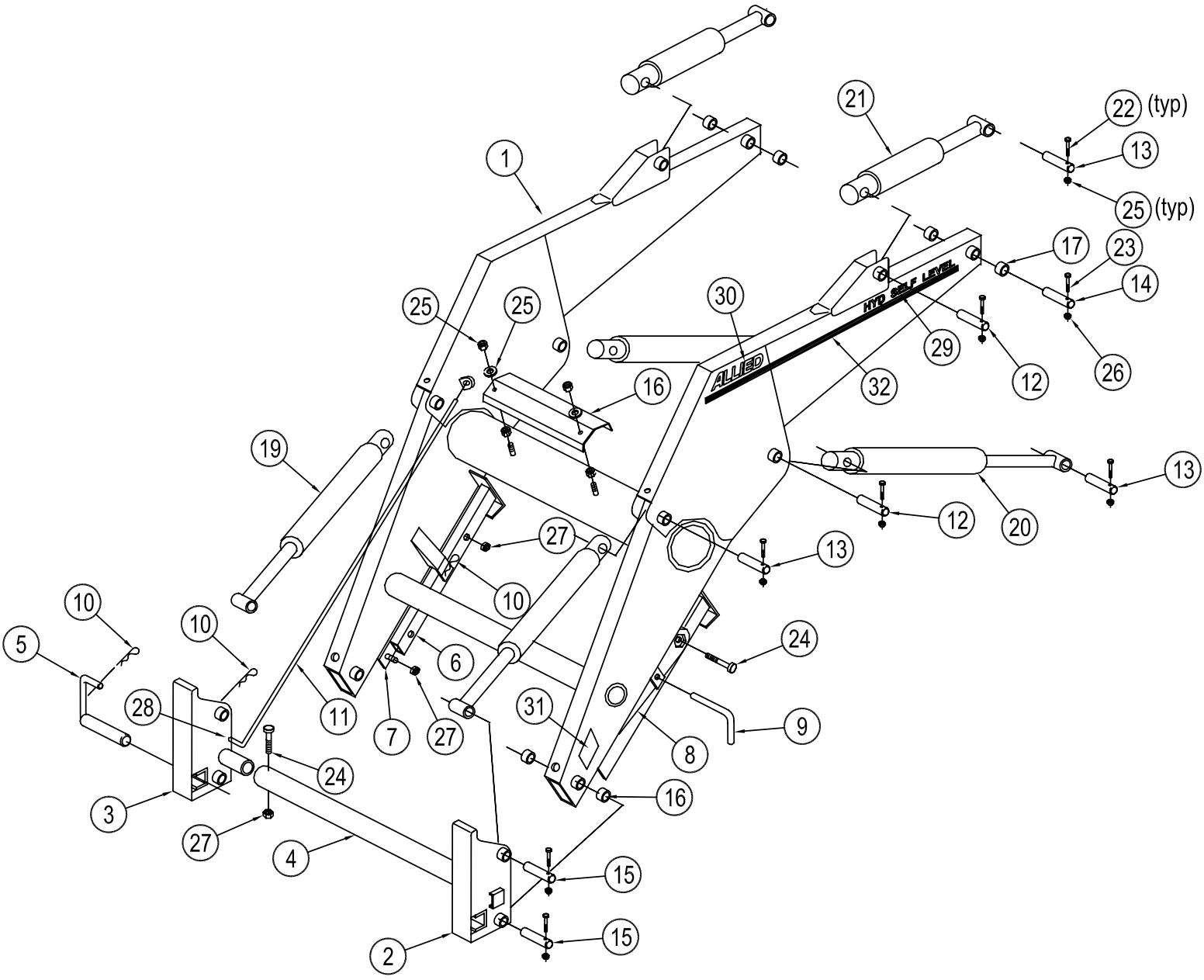
Item	Part No.	Description	Regular Quantity	HSL/TSL Quantity	S Quantity	S895HSL/TSL Quantity
1	24543	895 Sub Frame Weldment Left	1	-	-	-
2	24544	895 Sub Frame Weldment Right	1	-	-	-
1	31447	895 HSL Sub Frame Weldment Left	-	1	-	-
2	31448	895 HSL Sub Frame Weldment Right	-	1	-	-
1	24593	895 S Sub Frame Weldment Left	-	-	1	-
2	24594	895 S Sub Frame Weldment Right	-	-	1	-
1	24596	S895HSL Sub Frame Weldment Left	-	-	-	1
2	24595	S895HSL Sub Frame Weldment Right	-	-	-	1
3	112751	Hook Weldment	2	2	2	2
4	112747	Plate Clamp	2	2	2	2
5	113125	Spacer Block	8	8	8	8
6	112748	Shim	2	2	2	2
7	111423	Cross Member Weldment	1	1	1	1
8	111426	Tube Cross Member	1	1	1	1
9	113077	Shaft Pivot 2.25 DIA X 6.50 Long	2	2	2	2
10	113281	Bolt Retainer Weldment	2	2	2	2
11	110887	Loader Lift Lock Weldment	2	2	2	2
12	812717	Grommet 0.375 ID X 1.00 OD X .13	2	2	2	2
13	812026	Bolt Hex 0.313nc X 1.00 gr5 pl	2	2	2	2
14	812944	Bolt Car. 0.625nc X 3.00 gr5 pl	8	8	8	8
15	84127	Bolt Car. 0.625nc X 3.50 gr5 pl	2	2	2	2
16	967233	Bolt Hex 1.00nc X 10.00 gr5 pl	2	2	2	2
17	81967	Nut Lock (nylon) 0.625nc grB pl	14	14	14	14
18	81745	Washer Lock 1.00 pl	2	2	2	2
19	112730	Washer Boot	2	2	2	2
20	112812	*Decal General Caution	2	2	2	2
21	113634	*Decal - 895 X 1.40	2	2	2	2
22	112983	*Decal - Warning Overhead Hazard	2	2	2	2
23	112982	*Decal - Lift Lock Instruction	2	2	2	2
24	812882	Bolt Car. 0.625nc X 2.50 gr5 pl	4	4	4	4
25	113474	*Decal - Cross Member Caution	2	2	2	2
26	24329	Mounting Wrench (for 0.875 bolt)	-	1 (TSL)	-	1 (TSL)
27	112615	*Decal - S X 1.40	-	-	1	-

*Part of decal replacement kit X1256

895, S895, 895 HSL, S895 HSL

Main Frame Assembly

(HSL Model Shown)



895, S895, 895 HSL, S895 HSL

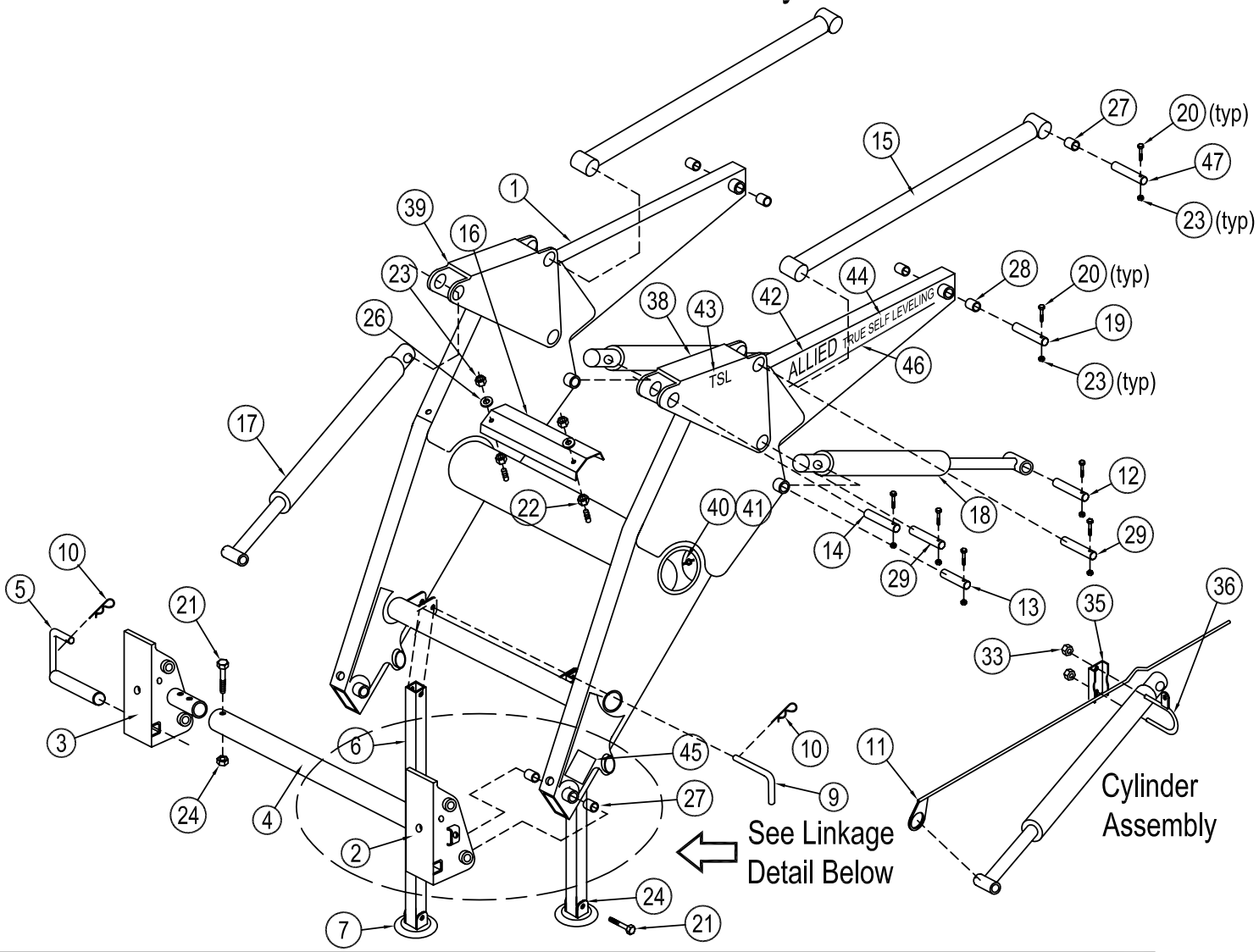
Main Frame Parts Table

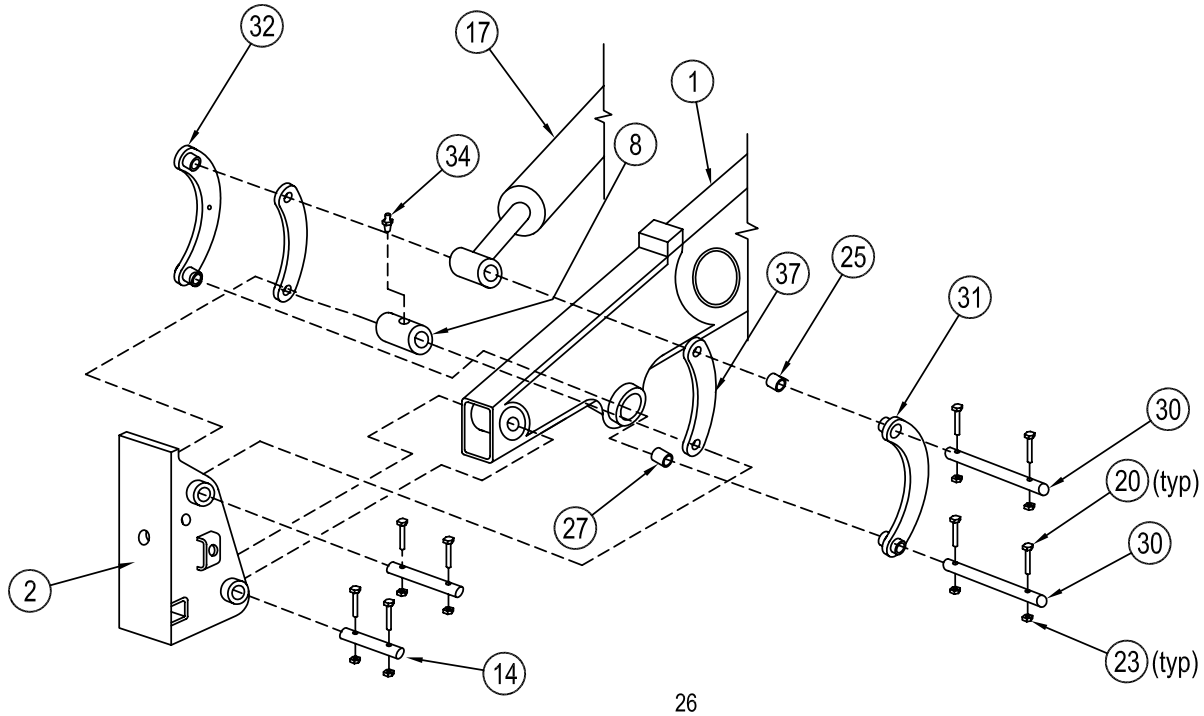
Item	Part No.	Description	895 S895	895 HSL S895 HSL
1	24542	895 Main Frame Weldment	1	-
1	31442	895 HSL Main Frame Weldment	-	1
2	24395	Quick Attach Weldment Left	1	1
3	24396	Quick Attach Weldment Right	1	1
4	113102	Tube Cross Qtach	1	1
5	108827	Pin Weldment	2	2
6	111231	Stand Weldment	2	2
7	113114	Strap Stand	2	2
8	23768	Wrench Mounting	1	1
9	110907	Pin 0.625 Dia. Stand	2	2
10	12779	Hair Pin Clip #9 Western Wire	4	4
11	113635	Levelling Rod	1	1
12	113660	Pin 1.25 Dia. x 6.00 Long	4	6
13	113587	Pin 1.25 Dia. x 8.75 Long	2	4
14	113060	Pin 1.50 Dia. x 8.75 Long	2	2
15	113154	Pin Qtach	4	4
16	113633	Bushing 1.25 ID x 1.63 OD x 1.88 Long	4	4
17	113579	Bushing 1.5 ID x 1.88 OD x 1.88 Long	4	4
18	24242	Tube Cover	1	1
19	24734	3.0 Dia. x 24.75 Bucket Cylinder	2	2
20	24774	3.5 Dia. x 32.50 Lift Cylinder	2	2
21	24421	4.0 Dia. x 10.50 Leveling Cylinder	-	2
22	81581	Bolt Hex 0.375nc x 2.50 gr5 pl	14	18
23	812338	Bolt Hex 0.438nc x 3.0 gr5 pl	2	2
24	81669	Bolt Hex 0.625nc x 3.50 gr5 pl	4	4
25	81344	Nut Hex 0.375nc grB pl	18	18
26	86273	Nut Lock (steel) 0.438nc grB pl	2	2
27	81967	Nut Lock (nylon) 0.625nc grB pl	6	6
28	81570	Washer Flat Std. 0.375 hs pl	4	4
29	23842	*Decal - Hyd. Self Level x 0.75	-	2
30	813356	*Decal - Buhler Allied x 1.75	2	2
31	113488	*Decal - Quick Attach Instruction	2	2
32	52281-000	*Bright Orange Scotchcal #72368	12ft	12ft

*Part of decal replacement kit X1423

895 TSL, S895 TSL

Main Frame Assembly





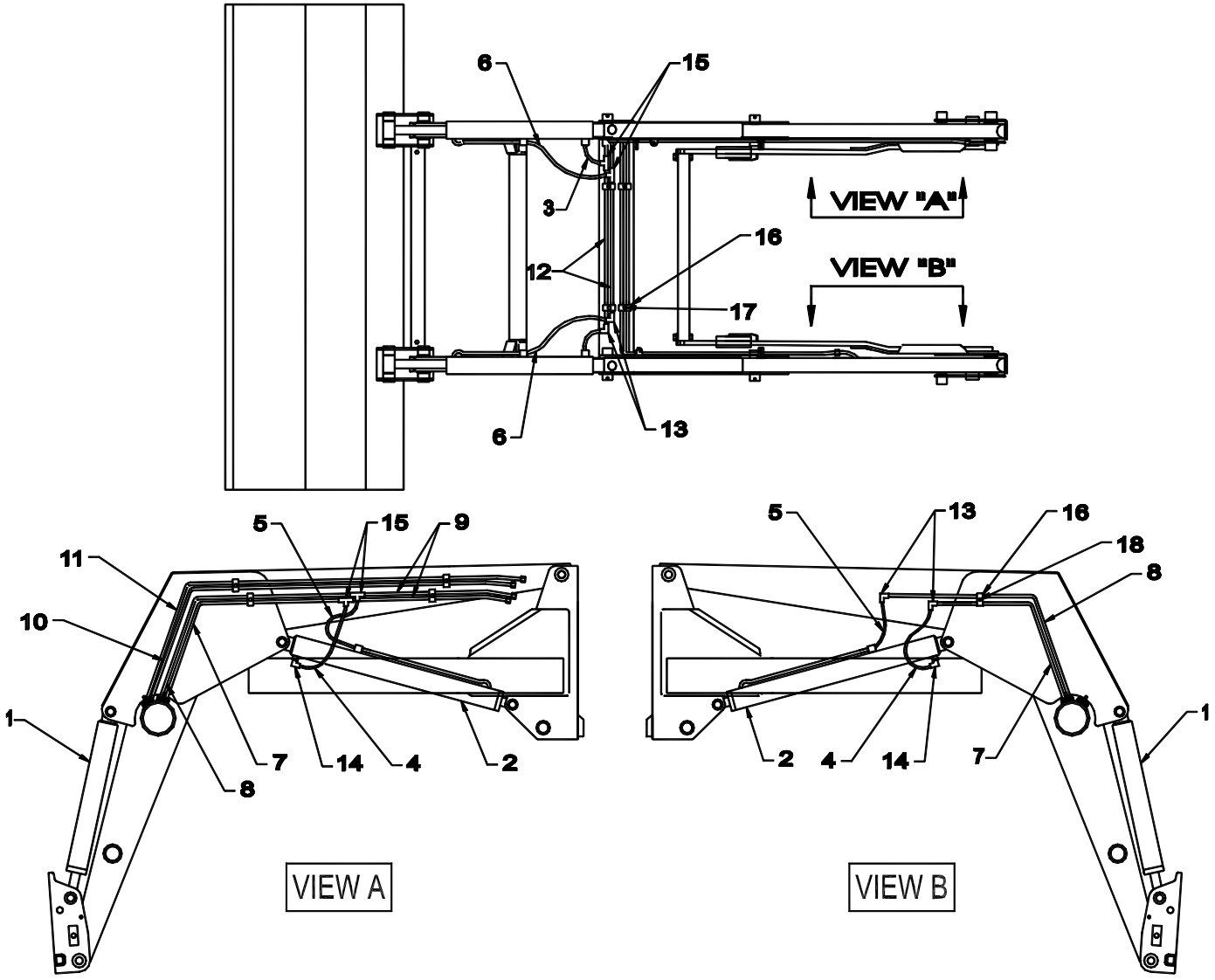
895 TSL, S895 TSL

Main Frame Parts Table

Item	Part No.	Description	895 TSL Quantity	S895 TSL Quantity
1	25233	895 TSL Mainframe	1	-
1	25233	S895 TSL Mainframe	-	1
2	24705	Quick Attach Left	1	1
3	24706	Quick Attach Right	1	1
4	113102	Cross Tube	1	1
5	108827	Pin Weldment	2	2
6	114304	Stand Tube	2	2
7	114303	Stand foot	2	2
8	113690	Link Spacer	2	2
9	110907	Stand Pin 0.625 diameter	2	2
10	12779	Hair Pin Clip	4	4
11	114208	Levelling Rod	1	1
12	113587	Pin 1.25 X 8.75 LG	2	2
13	113660	Pin 1.25 DIA X 6.00 LG	2	2
14	113696	Pin 1.25 DIA X 8.13 LG	6	6
15	113924	Levelling Tube	2	2
16	24242	Cross Tube Cover	1	1
17	24734	Cylinder Bucket	2	2
18	24773	Cylinder Lift	2	2
19	114250	Pin 1.50 dia. X 8.75 LG	2	2
20	81581	Hex Bolt 0.375 DIA X 2.5 LG	32	32
21	81669	Hex Bolt 0.625 DIA X 3.5	4	4
22	81592	Hex Nut 0.375 DIA	4	4
23	81344	Locknut 0.375 DIA	41	41
24	81967	Locknut 0.625 DIA	18	18
25	113691	Bushing 1.25 I.D. X 1.63 O.D x 0.75'' lg	8	8
26	81570	Flat Washer 0.375 DIA	4	4
27	113633	Bushing 1.25 I.D. X 1.63 O.D. x 1.88'' lg	16	16
28	113579	Bushing 1.50 I.D. x 1.88 O.D. x 1.88'' lg	4	4
29	114100	Pin 1.25 DIA X 8.38 lg	4	4
30	114175	Pin 1.25 DIA X 9.13 lg	4	4
31	114095	Link Weldment Left	2	2
32	114096	Link Weldment Right	2	2
33	81966	Locknut 0.50 DIA	2	2
34	84583	Grease Fitting 1/8 NPT Straight	2	2
35	FNH114039	Bolt Plate	1	1
36	FNH114040	Rod Guide	1	1
37	114097	Link Assembly 11.25	4	4
38	116474	Pivot Plate Left	1	1
39	116475	Pivot Plate Right	1	1
40	813228	1/2" Wing nut (pl)	2	2
41	81637	1/2" Lock washer (Pl)	2	2
42	813356	Decal - Buhler Allied X 1.75	2	2
43	114132	Decal - TSL X 1.75	2	2
44	813358	Decal - True Self Leveling	2	2
45	113488	Decal - Quick Attach Instruction	2	2
46	52281-000	Bright Orange Scotchcal #72368	10ft	10ft
47	114251	Pin 1.25 DIA X 8.75 lg	2	2

895, S895

Hydraulic Plumbing Diagram



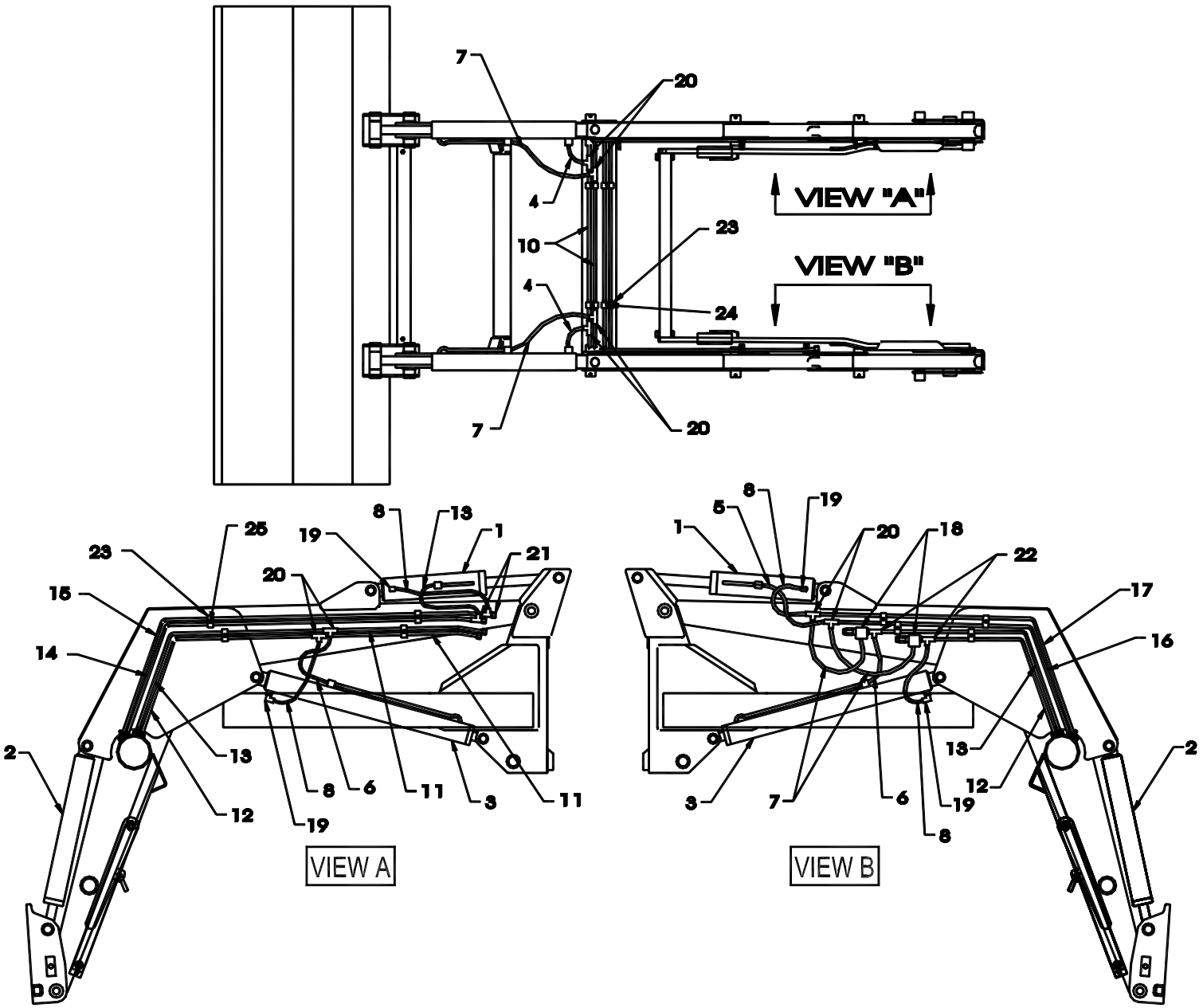
895, S895

Plumbing Parts Table

Item	Part No.	Description	Qty.
1	24417	3.0 Dia. x 26.50 Cyl. Assy. Bucket	2
2	24314	3.0 Dia. x 32.50 Cyl. Assy. Lift	2
3	811754	3/8 x 18" Hose 3/4 MORB x 3/4 SWFJIC	2
4	811434	3/8 x 30" Hose 3/4 MORB x 3/4 SWFJIC	2
5	811466	3/8 x 24" Hose 3/4 MORB x 3/4 SWFJIC	2
6	812947	3/8 x 22" Hose 3/4 SWFJIC x 3/4 SWFJIC	2
7	113210	Tubing - Lift Cyl. Bottom Raise	1
8	113209	Tubing - Lift Cyl. Top Drop	1
9	112937	Tubing - Lift Cyl. Common (31.0")	2
10	113211	Tubing - Bucket Cyl. Bottom Rollbk	1
11	113212	Tubing - Bucket Cyl. Top Dump	1
12	112837	Tubing - Bucket Cyl. Cross Tube	2
13	812128	Elbow 90 3/4 MJIC x 3/4 MJIC	4
14	811414	Elbow 90 3/4 MORB x 3/4 MJIC	2
15	812069	Tee 3/4 MJIC	4
16	11362	Clip Pipe Std.	9
17	81592	Nut Hex 0.375nc gr2 pl	4
18	81344	Nut Lock (Nylon) 0.375nc grB pl	5

895 HSL, S895 HSL

Hydraulic Plumbing Diagram



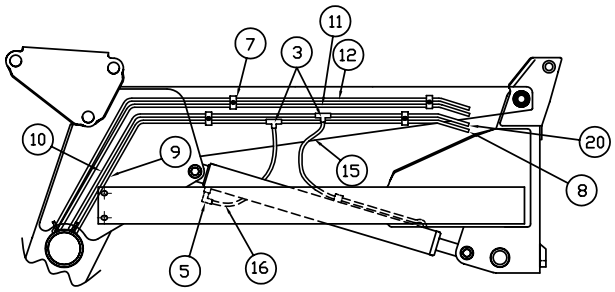
895 HSL, S895 HSL

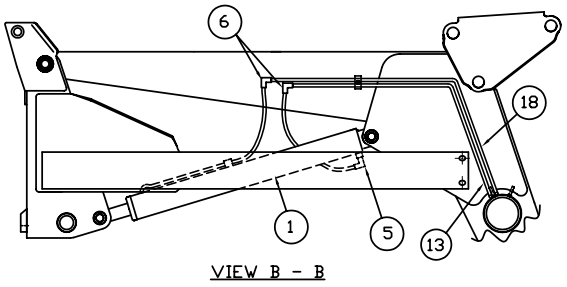
Hydraulic Plumbing Parts Table

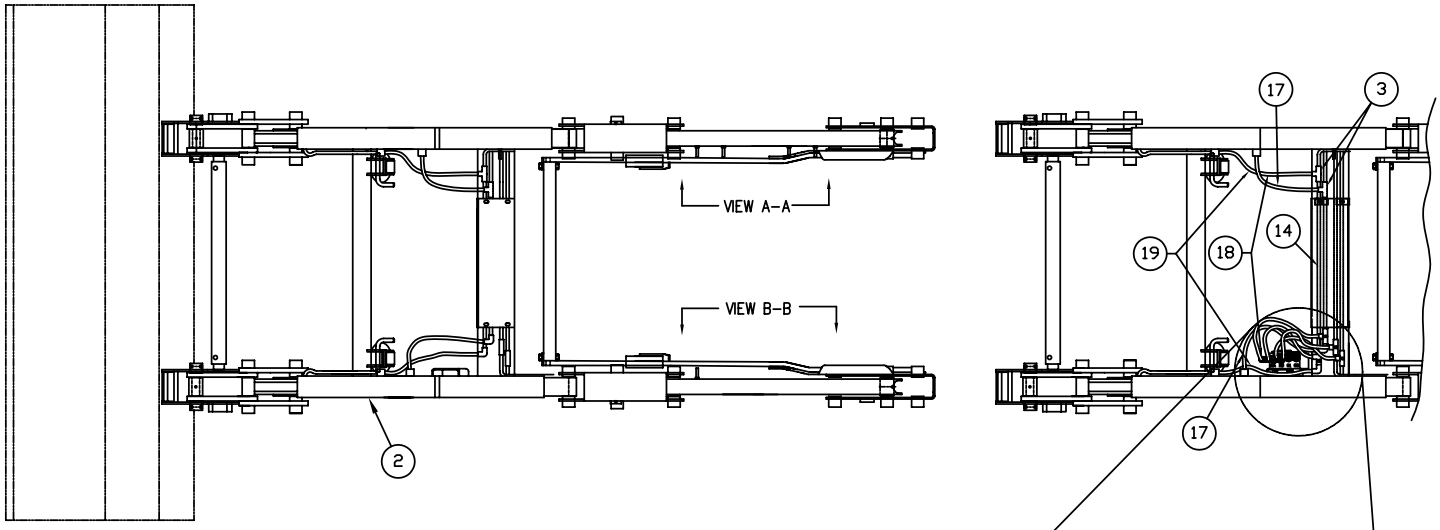
Item	Part No.	Description	Qty.
1	24421	4.0 Dia. x 10.50 Cyl. Assy. Level	2
2	24417	3.0 Dia. X 26.50 Cyl. Assy Bucket	2
3	24773	3.0 Dia. X 32.50 cyl. Assy Lift	2
4	811754	3/8 x 18 Hose 3/4 MORB x 3/4 SWFJIC	1
5	811572	3/8 x 15 Hose 3/4 MORB x 3/4 SWFJIC	2
6	811434	3/8 x 20 Hose 3/4 MORB x 3/4 SWFJIC	2
7	811466	3/8 x 24 Hose 3/4 MORB x 3/4 SWFJIC	4
8	812947	3/8 x 22 Hose 3/4 SWFJIC x 3/4 SWFJIC	4
9	811434	3/8 x 30 Hose 3/4 MORB x 3/4 SWFJIC	1
10	112837	Tubing - Bucket Cyl. Cross Tube	2
11	112937	Tubing - Lift Cyl. Top Drop Common	2
12	113210	Tubing - Lift Cyl. Bottom Raise	1
13	113209	Tubing - Lift Cyl. Top Drop	1
14	113211	Tubing - Bucket Cyl. Bottom Rollback	1
15	113212	Tubing - Bucket Cyl. Top Dump	1
16	113213	Tubing - Bucket Cyl. Bottom Ext HSL	1
17	113214	Tubing - Bucket Cyl. Top Ext HSL	1
18	23875	Valve Relief Assy	2
19	811414	Elbow 90 3/4 MORB x 3/4 MJIC	4
20	812069	Tee 3/4 MJIC	8
21	812786	Tee 3/4 MJIC x 3/4 SWFJIC	2
22	812828	Tee 3/4 MORB 3/4 MJIC x 3/4 MJIC	2
23	11362	Clip Pipe Std.	11
24	81592	Nut Hex 0.375nc gr2 pl	4
25	81344	Nut Lock (Nylon) 0.375nc grB pl	7

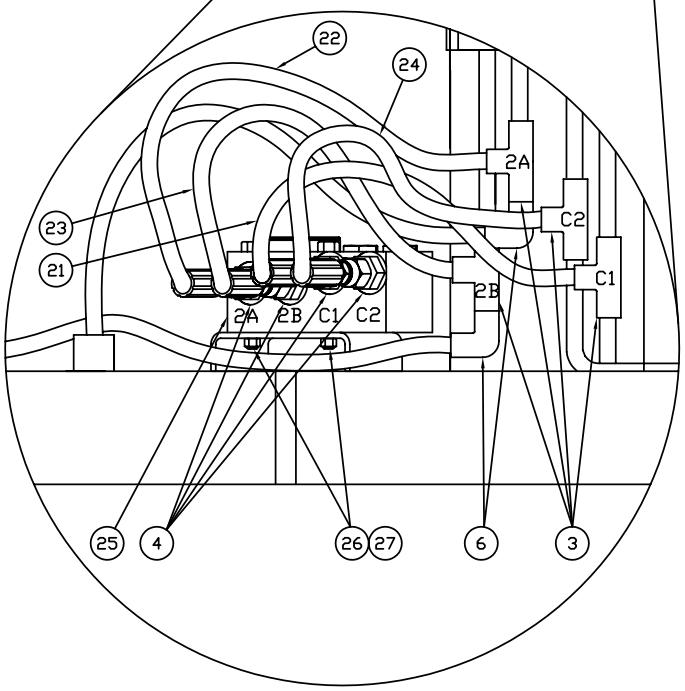
895 TSL, S895 TSL

Hydraulic Plumbing Diagram









895 TSL, S895 TSL

Plumbing Parts Table

Item	Part No.	Description	Quantity
1	24773	3.0 DIA x 32.50 Cylinder Assembly Lift	2
2	24417	3.0 DIA x 26.50 Cylinder Assembly Bucket	2
3	812069	Tee 3/4-16MJIC X 3/4-16 MJIC	8
4	886897	Adaptor Str 7/8 MORB x 3/4 MIJC	4
5	811414	Elbow 90º 3/4-16 MORB to 3/4 MJIC	2
6	812128	Elbow 90º 3/4 MJIC x 3/4 MJIC	4
7	11362	Pipe Clip	9
8	112937	Tubing Ext. Lift Cyl 31.0"	1
9	116481	Tubing Lift Cyl. Right (Bottom, Raise)	1
10	116482	Tubing Lift Cyl. Right (Top, Drop)	1
11	116483	Tubing Bucket Cyl. (Bottom, Dump)	1
12	116484	Tubing Bucket Cyl. (Top, Rollback)	1
13	116486	Tubing Lift Cyl. Left (Bottom, Raise)	1
14	112837	Tubing Cross Tube	2
15	811754	Hose 3/8 X 18 3/4-16 MORB X 3/4-16 SWJIC	2
16	812697	Hose 3/8 X 24 3/4-16 SWFJIC X 3/4-16 SWFJIC	2
17	811434	Hose 3/8 X 30 3/4-16 MORB X 3/4-16 SWFJIC	2
18	116485	Tubing Lift Cylinder Left (Top, Drop)	1
19	811574	Hose 3/8 X 40 3/4-16 MORB X 3/4-16 SWFJIC	2
20	113031	Tubing Ext. Lift Cyl 23.0"	1
21	812697	Hose 3/8 x 24 3/4 Swfjic x 3/4 Swfjic	1
22	812696	Hose 3/8 x 18 3/4 Swfjic x 3/4 Swfjic	1
23	115260	Hose 3/8 x 15 3/4 Swfjic x 3/4 Swfjic	1
24	115730	Hose 3/8 x 20 3/4 Swfjic x 3/4 Swfjic	1
25	25253	TSL Manifold	1
26	812052	Bolt Hex 0.250nc x 3.00 gr5 pl	2
27	81922	Nut Lock (Nylon) 0.25nc grbpl	2

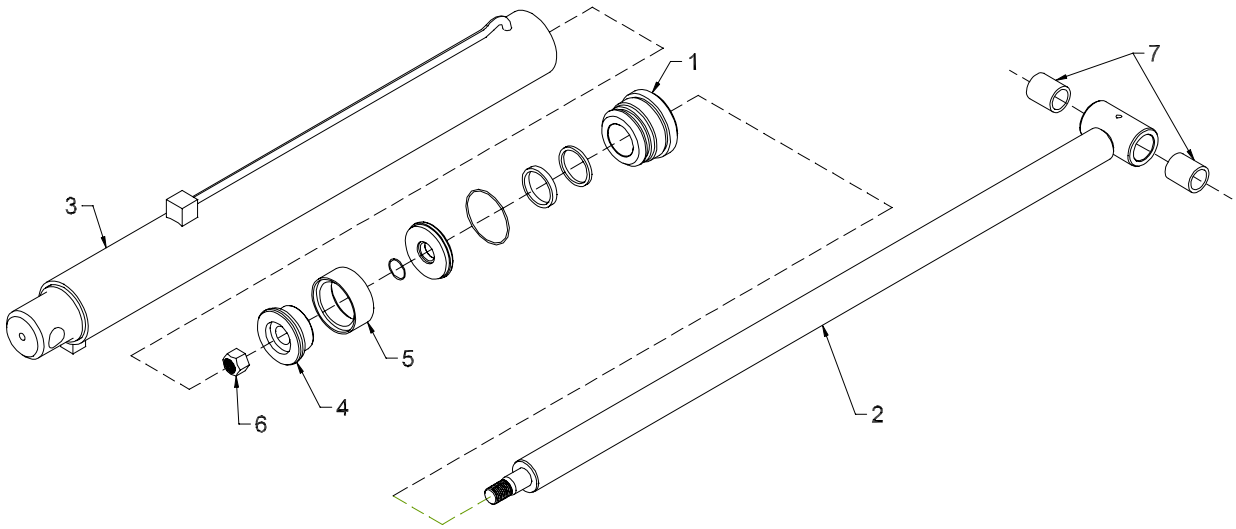
* Required only if cartridge valve kit X2264 not purchased.

895, S895, 895 HSL, S895 HSL, 895 TSL, S895 TSL

Hydraulic Cylinder Assembly

Description	Bucket Cylinders	TSL Bucket Cylinders	Lift Cylinders	Lift Cylinders	Leveling Cylinders
Diameter	3.00"	3.00”	3.00"	3.50"	4.00"
Length of Stroke	26.50"	24.75”	32.50"	32.50"	10.50"
Retracted Length	39.50"	53.25”	45.25"	45.25"	20.50"
Extended Length	65.75"	78.00”	77.75"	77.75"	31.00"
Cylinder Assembly No.	24417	24734	24773	24774	24421
Seal Kit No.	X1424	X1424	X1424	X1425	X1426
Shaft Diameter	1.75"	1.75”	1.75"	2.00"	2.25"

Item	Description	Part Number	Part Number	Part Number	Part Number	Part Number
1	Head Plate	24606	24606	24606	24430	24554
2	Shaft Weldment	113158	114135	114720	114719	113153
3	Cylinder Tube Weldment	24418	24733	24786	24785	24422
4	Piston Half (wide)	112862	112862	112862	112940	113150
5	Piston Half (narrow)	112863	112863	112863	112941	113151
6	Self-Locking Nut	810457	810457	810457	810457	87557
7	Shaft Bushing	113766	113578	113633	113633	113766

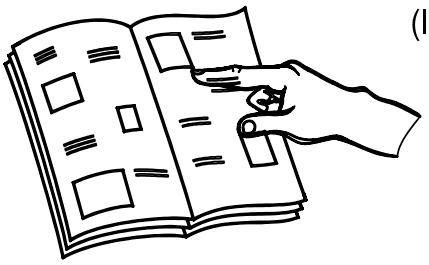


NOTES:
1. Bucket cylinder shown
2. All cylinder seals are contained in corresponding seal kit.

CAUTION: Maximum pressure – 2750 psi

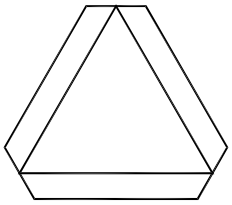
WARNING!

LOOK OUT FOR CHILDREN.
TEACH YOUR CHILDREN SAFETY.
(INFORM THEM OF DANGERS AROUND MACHINES)

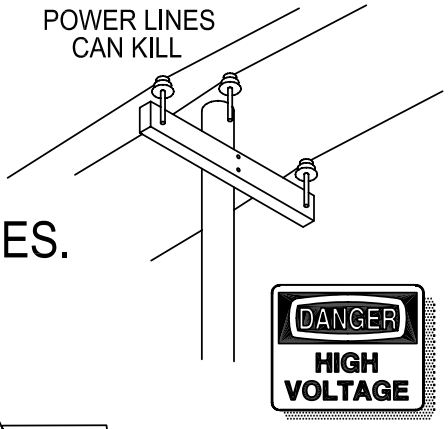


MANUAL MUST BE READ AND UNDERSTOOD BY OPERATOR.

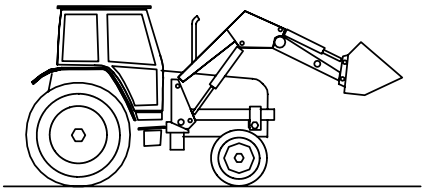
TRANSPORT



EMBLEMS MUST BE VISIBLE

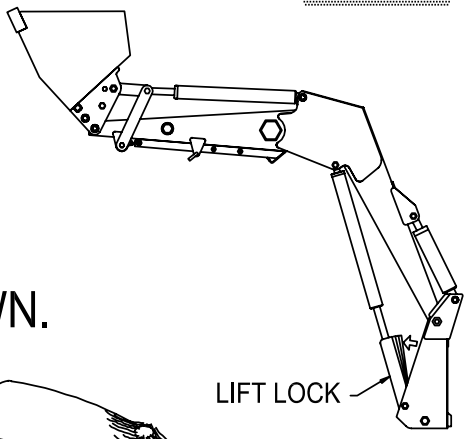


ALWAYS MOVE EQUIPMENT IN LOW OR DOWN POSITION ESPECIALLY AROUND POWER LINES.

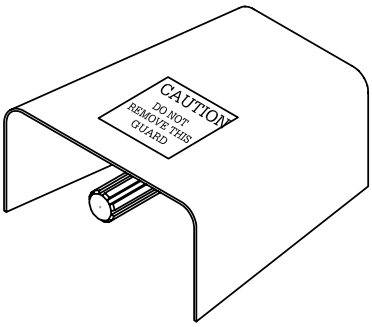


NEVER LEAVE EQUIPMENT IN RAISED POSITION.

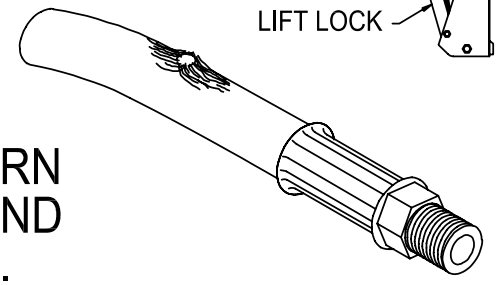
SERVICE



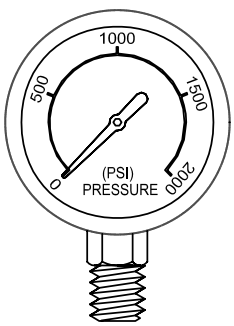
SERVICE EQUIPMENT ONLY WHEN STOPPED AND WITH LIFT LOCKS IN PLACE AS SHOWN.



KEEP ALL GUARDS AND SHIELDS IN PLACE.



REPLACE DAMAGED OR WORN PARTS. FRAYED CABLES AND HOSES ARE DANGEROUS.



DO NOT CHANGE FACTORY SETTINGS.

KEEP DECALS CLEAN AND LEGIBLE.
(REPLACEMENTS NORMALLY AVAILABLE)

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